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# Cards for the Poor and Funds for Villages Jokowi's Initiatives to Reduce Poverty and Inequality

# Asep Suryahadi and Ridho Al Izzati

When President Joko "Jokowi" Widodo took office in 2014, Indonesia was facing stagnating poverty and high inequality. To address these problems, he quickly introduced several initiatives, mainly in the form of social assistance programmes which gave the poor access to education and health services, as well as food and cash transfers, and grants for villages as mandated by the Village Law. This paper assesses the implications of these initiatives on poverty and inequality, by correlating economic growth with real per capita household consumption growth by quintile at the district level. The results indicate that economic growth has become less pro-poor during the first three years of the Jokowi government. This is indicated by lower growth elasticity of consumption of the poorest 20 per cent of the population, while those of the middle quintiles have increased significantly and that of the richest 20 per cent remains the highest. This suggests that Jokowi's poverty and inequality reduction strategy is not sufficient. A complementary approach to connect the poor to economic growth — through job creation and income generation — is needed. Furthermore, the findings also show that it is important to pay more attention to assist the livelihood of the poor who live in Java as well as the urban poor.

**Keywords:** Economic growth, consumption, poverty, inequality, Indonesia.

#### 1. Introduction

Joko "Jokowi" Widodo was sworn in as the new president of Indonesia in October 2014, replacing Susilo Bambang Yudhoyono (SBY) who had governed Indonesia for ten years from 2004 to 2014. At the time of the transition, the picture of the Indonesian economy was not too positive. Economic growth had steadily declined since its peak in 2011 and poverty reduction had stagnated since 2012. Meanwhile, inequality, as measured by the Gini Ratio, had steadily increased and reached its highest point ever of

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0.41 in 2011 and remained at this level thereafter. An underlying fundamental beneath these trends was the continuously declining commodity prices since 2011. During the previous decade, Indonesia had been riding a commodity boom — a steady increase in the prices of primary commodities.

Figure 1 depicts the trends of economic growth, poverty rate, and Gini Ratio during the 2002–17 period. It shows that Indonesia's economic growth rate has steadily increased from 4.5 per cent in 2002 to 6.35 per cent in 2007, but the Global Financial Crisis (GFC) brought it down to 4.58 per cent in 2009. The recovery was relatively quick, reaching 6.49 per cent in 2011. However, it has steadily declined since then, bottoming out at 4.88 per cent in 2015. It has progressively increased in the following two years, reaching 5.17 per cent in 2017.

During this period of positive economic growth, the poverty rate has generally declined, falling from 18.2 per cent in 2002 to 10.64 per cent in 2017. The exception was in 2006 when the poverty rate increased to 17.75 per cent from 15.97 per cent in the previous year due to increases in fuel and rice prices. Meanwhile, the Gini Ratio has steadily increased from 0.32 in 2004 to 0.41 in 2011, remaining at this level until 2015. It then slightly decreased to 0.393 by 2017.

The stagnating poverty reduction and high inequality level posed a double challenge in social welfare for Jokowi when he took over the presidency at the end of 2014. He immediately launched a couple of initiatives in this area, which he had flagged during his presidential campaign. First, he introduced the KIP (*Kartu Indonesia Pintar*, Smart Indonesia Card) and KIS (*Kartu Indonesia Sehat*, Indonesia Health Card), two major social assistance programmes in the areas of education and health, respectively. Second, he started the disbursement of village funds, which is mandated by the Law No. 6/2014 on Villages, replacing the PNPM (*Program Nasional Pemberdayaan Masyarakat*, National Community Empowerment Programme). Other initiatives were introduced later, including the expansion of the PKH (*Program* 

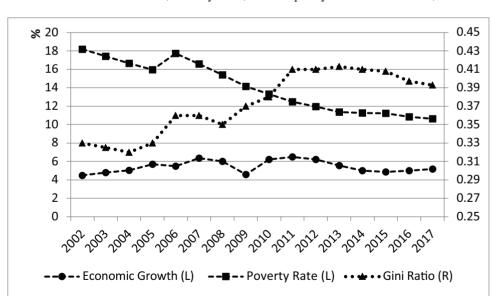


FIGURE 1
Trends in Economic Growth, Poverty Rate, and Inequality Level in Indonesia, 2002–17

Source: Statistics Indonesia (various years).

*Keluarga Harapan*, Family of Hope Programme), the Indonesian version of a conditional cash transfer programme.

This study aims to evaluate the impact of these initiatives on efforts to increase social welfare, particularly reducing poverty and inequality. The approach employed is based on the seminal paper by Dollar and Kraay (2002), which assesses the correlation of average income growth (defined as economic growth) with income growth of the poor. In this study, we correlate real economic growth with the real consumption growth of each quintile of per capita household consumption for three periods: 2004–09; 2009–14; and 2014–17. The first two periods refer to the first and second Yudhoyono governments, while the last period refers to the first three years of the Jokowi presidency. The objective is to examine whether economic growth has become more or less pro-poor during the Jokowi period compared to the previous periods.

#### 2. Literature Review

Dollar and Kraay (2002) hypothesize that income of the poor rises proportionally with average income. They define average income as real per capita GDP, while the income of the poor as per capita income of the poorest 20 per cent of the population. The study uses the Generalized Method of Moment (GMM) system of estimation that, by design, combines both the levels and changes of the data. The main finding of the analysis is that the authors cannot reject the null hypothesis that average income of the poorest fifth rises with average income equiproportionately. Apart from average income as the main predictor, the paper also uses several other specifications of estimation, including: regional dummies; time trend; interactions of income with decade dummies; interactions of regional dummies with income; and interaction of incomes with negative growth dummy.

Using those specifications, they find that the coefficient of average incomes ranges from 0.9 to 1.3 and most often is 1. It means that each 1 per cent increase of average income will increase the average income of the poorest fifth also by 1 per cent. They conclude that growth of average incomes does benefit the poor and, hence, growth is good for the poor. Dollar, Kleineberg and Kraay (2015) extended their work using data from 151 countries for the period between 1967 and 2011. Their results still lead to the same conclusion that growth is good for the poor.

In the Indonesian context, Balisacan, Pernia and Asra (2003) show the correlation between growth and poverty. They estimate the log of average per capita consumption (instead of GDP per capita) to the log of consumption of the poor. The elasticity is about 0.7 for the period 1993 to 1999. Meanwhile, Miranti (2010) examines the elasticity of growth to poverty for three periods of development. The first period is called liberalization (1984–90), the second period is referred to as slower liberalization (1990–96), and the third period is recovery from the Asian Financial Crisis (AFC) (1999–2002). The results from the study show that growth was pro-poor during those periods. Meanwhile, Miranti, Duncan and Cassells (2014) re-estimate that model for the decentralization period (2002–10). The findings suggest that in the decentralization era, elasticity of average consumption to poverty is greater, but rising inequality has reduced the impact of economic growth on poverty reduction.

Timmer (2004) compares Indonesia's pro-poor growth process to other countries in the region (from mid-1960s until 1990s) and concludes that Indonesia's growth has always benefited the poor. Although during the 1967–2002 period Indonesia experienced both weak and strong pro-poor growth, the country recorded one of the best poverty reductions in Asia during the entire span. The results from Timmer (2004) indicate that persistent pro-poor growth requires simultaneous and balanced interaction between the growth and distribution process.

Another way to measure the rate of pro-poor growth is by using a Growth Incidence Curve (GIC), as proposed by Ravallion and Chen (2003). The curve depicts the annualized growth rate of per capita

income or expenditure for each percentile of the distribution between two points in time. Therefore, a GIC is useful not only for demonstrating how the gains from economic growth are distributed in the population, but also for monitoring income growth of the poor.

For example, Ravallion and Chen (2003) show that during the 1990–99 period, China experienced a rise in inequality because growth of per capita household income of the richest segment of the population was higher than that of the poorest. On the other hand, a study conducted by the World Bank (2018) shows that during the last decade, in most Latin American countries, income growth of households at the bottom of the income distribution was significantly higher than those at the top, resulting in a decline in inequality. Similarly, Bridonneau (2016) shows that different countries in Asia and Africa exhibit different GIC patterns, while the pattern of each country can change over time.

Kraay (2006) identifies three potential sources of pro-poor growth: first, a higher growth of average incomes; second, higher sensitivity of poverty to growth in average incomes; and third, a poverty-reducing pattern of growth in relative incomes. Using a decomposition method, the study finds the first source as the dominant factor. Hence, he suggests that countries should focus on the policies and institutions that drive average income growth.

#### 3. Jokowi's Initiatives on Social Policy

Jokowi's direct initiatives on improving social welfare consist of two broad categories. First, expanding the coverage of social assistance programmes and making them more effective. Second, rolling out and continuously enlarging the village fund, a grant for villages mandated by Law No. 6/2014 on Villages. The remainder of this section discusses each initiative in turn.

# 3.1 Social Assistance through Cards

During the 2014 presidential campaign, Jokowi often flagged two cards — KIP and KIS — as his main tools to assist the poor on accessing education and health services. The introduction of these cards followed the successful implementation of similar cards at regional levels when Jokowi became the Mayor of Surakarta in Central Java and later Governor of Jakarta. Since social protection programmes in the areas of education and health were already in operation since the late 1990s as part of the JPS (*Jaring Pengaman Sosial*, Social Safety Net) programme (which was launched as an effort to alleviate the social impact of the AFC that hit Indonesia during 1997–98), the implementation of these initiatives is integrated with the existing programme.

KIP was integrated with the BSM (*Bantuan Siswa Miskin*, Assistance for Poor Students) programme, a scholarship programme for students from poor families. In 2014, the programme provided scholarships of Rp450,000 per year for a primary school student, Rp750,000 per year for a junior high school student, and Rp1,000,000 per year for a senior high school student — covering a total of 11.2 million students. The Jokowi government has increased the coverage of the KIP programme to 19.7 million students by 2016.

Meanwhile, KIS was integrated with the PBI (*Penerima Bantuan Iuran*, Premium Assistance Recipients) programme of the JKN (*Jaminan Kesehatan Nasional*, National Health Insurance) programme. This scheme is part of the SJSN (*Sistem Jaminan Sosial Nasional*, National Social Security System), which is mandated by Law No. 40/2004 on SJSN. The law requires that the JKN premium of the poor is paid for by the government through the PBI programme. In July 2013, the premium assistance was Rp19,225 per PBI recipient and the total number of recipients reached 86.4 million people. In 2017, the premium assistance was increased to Rp23,000 per recipient and the total number of participants of the KIS programme was expanded to 92.4 million.

Actually, the second term of Yudhoyono government introduced a card for social assistance recipients, called the KPS (*Kartu Perlindungan Sosial*, Social Protection Card) in 2013. The holder of this card is entitled to receive the benefit of the Rastra (*Beras untuk Keluarga Sejahtera*, Rice for Prosperous Families) scheme, a heavily subsidized rice price programme. In addition, a KPS holder is also entitled to receive the benefit of BLSM (*Bantuan Langsung Sementara Masyarakat*, Community Temporary Direct Assistance) programme, an unconditional cash transfer initiative which is usually invoked if there is a shock to the community, such as an increase in fuel prices.

The Jokowi government changed the KPS card into another card called KKS (*Kartu Keluarga Sejahtera*, Prosperous Family Card), which continues to give its holders entitlement to receive the benefit of the Rastra programme. In 2014, 15.5 million households were Rastra recipients, and the figure has slightly increased to 15.8 million households in 2017.

Meanwhile for the BLSM recipients, the Jokowi government introduced a new card called KSKS (*Kartu Simpanan Keluarga Sejahtera*, Prosperous Family Saving Card). The last BLSM during the Yudhoyono government was in 2013, providing a benefit of Rp600,000 in two phases, with the number of recipients being 15.5 million households. The Jokowi government, on the other hand, implemented the BLSM programme in late 2014 and early 2015 for six months with the number of recipients growing to 15.8 million households, each receiving Rp1,000,000 in three phases.

One social assistance programme that did not experience much change in term of its design is the PKH (*Program Keluarga Harapan*, Family of Hope Programme), a conditional cash transfer programme. The Jokowi government has continuously increased the coverage of this programme, indicating the priority put by the government on PKH as the main mechanism to address poverty and inequality problems in the country. In 2014, PKH covered 2.8 million households, which was then increased to 3.5 million in 2015, 5.9 million in 2016, and 6 million in 2017. Furthermore, its coverage is planned to be increased to 10 million households in 2018. The benefit received by each recipient household varies in accordance with the household structure. Specifically, it ranged from Rp800,000 to Rp3,700,000 per year per household in 2016. In 2017, the PKH switched to a single benefit of Rp1,890,000 per household.

Table 1 shows the coverage, while Table 2 shows the budget of the major social assistance programmes during 2014–18. Table 1 indicates that, from 2014 to 2018, there has been an increase in the number of beneficiaries covered by the various programmes. The number of KIP beneficiaries almost doubled, from around 11 to 21 million students between 2014 and 2015. The number of KIS beneficiaries also increased from around 88 to 92 million individuals between 2015 and 2016. However, the programme that has continuously expanded — rather significantly — is PKH, starting from just 2.8 million beneficiary households in 2014 to 10 million in 2018.

TABLE 1 Number of Beneficiaries of the Major Social Assistance Programmes, 2014–18 (million)

Programme	2014	2015	2016	2017	2018
KIP/BSM <sup>b</sup>	11.1	20.95	19.68	19.71	19.7
KIS/PBI <sup>b</sup>	86.4	88.2	92.4	92.4	92.4
Rastra <sup>a</sup>	15.5	15.5	15.5	15.8	15.6
KSKS/BLSM <sup>a</sup>	15.5	15.8	_	_	_
PKH <sup>a</sup>	2.8	3.5	5.9	6	10

Notes: a. Household, b. Individual/student Source: World Bank (2017), Bappenas (2017).

TABLE 2
Budget of the Major Social Assistance Programmes, 2014–18 (Rp trillion)

Programme	2014	2015	2016	2017	2018
KIP/BSM	6.6	6.4	10.6	11.7	10.5
KIS/PBI	19.9	19.9	24.8	25.5	25.5
Rastra	18.2	21.8	22.1	19.8	21
KSKS/BLSM	6.2	9.4	_	_	_
PKH	5.5	6.5	7.8	11.3	17.3

Source: World Bank (2017), Bappenas (2017).

In line with the increase in the number of beneficiaries, Table 2 shows that the budget of major social assistance programmes has also significantly increased during the 2014–18 period. Again, PKH has experienced the largest increase, as its budget has more than tripled — from around Rp5.5 trillion in 2014 to Rp17.3 trillion in 2018.

The targeting of social assistance programmes in Indonesia has evolved a long way since the social safety net (JPS) programmes of the late 1990s. Currently, the application of a uniform targeting mechanism, through a national registry of around 26 million poor and vulnerable households (the Unified Database, or UDB), has improved the targeting of social assistance benefits towards the needy (World Bank 2017).

McCarthy and Sumarto (2018) are sceptical with the top-down approaches in targeting of the social assistance programmes. They suggest that community-based targeting, developed using existing community practices, will produce better and more acceptable results. Actually, in recent years, innovations by including community consultation (*musyawarah desa* or Musdes) and self-targeting (*Mekanisme Pendaftaran Mandiri* or MPM) have been piloted and adopted.

## 3.2 Village Development through Grants

In addition to social assistance to households, the government also provides block grants to villages, the *Dana Desa* (village fund), as mandated by Law No. 6/2014 on Villages. These grants to villages replaced the grants to communities under the PNPM (*Program Nasional Pemberdayaan Masyarakat*, National Community Empowerment Programme), which was implemented from 2007 to 2014. Although the law was signed by President Yudhoyono near the end of his second term, it was only implemented in 2015 when Jokowi had been inaugurated as his successor.

During the 2014 presidential campaign, Jokowi made a promise to provide a grant of Rp1 billion to each village every year. Table 3 recapitulates the distribution of the village fund from 2015 to 2018. In 2015, the government started to disburse the village fund at an average amount of Rp280 million for each village. The amount was continuously increased in subsequent years, reaching Rp800 million per village in 2018. As a consequence, the total village fund distributed has tripled in just four years, from around Rp20 trillion in 2015 to Rp60 trillion in 2018.

The use of the village fund in each village is determined through a planning meeting called Musrenbangdes (*Musyawarah Perencanaan Pembangunan Desa*, Village Development Plan Consultation), with the results formally formulated in a village budget called APBDes (*Anggaran Pendapatan dan Belanja Desa*, Village Income and Expenditure Budget). Most villages allocate the largest portion, more than 70 per cent, of the fund for infrastructure development, in particular roads. Only a small share is allocated for community empowerment (Syukri et al. 2018).

TABLE 3
The Distribution of Village Fund, 2015–18

Year	Average Fund per Village (Rp million)	Number of Villages	Total Village Fund (Rp trillion)
2015	280	74,754	20.8
2016	628	74,754	46.9
2017	776	74,954	58.2
2018	800	74,954	60.0

Source: Ministry of Finance (various years).

#### 4. Model and Data

To assess the impact of Jokowi's social welfare initiatives on poverty and inequality, we examine whether economic growth has become more or less pro-poor during Jokowi's period, compared to previous presidencies. A framework that can be used for this purpose is the model estimated by Dollar and Kraay (2002), in which they correlate economic growth with income growth of the poorest quintile. While Dollar and Kraay (2002) estimate the model in a multi-country setting, we adopt the model for Indonesia using district level data. We make use of consumption instead of income and carry out some extensions where we estimate not only the elasticity of the poorest quintile (Q1), but also the middle (Q2, Q3, and Q4) and the richest (Q5) quintiles of per capita household consumption.

The expectation is that Jokowi's social welfare initiatives will boost the consumption growth of the poor. However, the framework used here cannot evaluate the impact of social welfare policies on consumption growth in isolation. The results of the analysis will show the net effect of all social and economic policies and shocks that take place in the economy on household consumption growth.

#### 4.1 Model of Economic Growth and Consumption Growth of the Poor

Following Dollar and Kraay (2002), the model is formulated as:

$$y_{dt}^q = \alpha_0 + \alpha_1 Y_{dt} + \alpha_2 X_{dt} + \mu_d + \varepsilon_{dt} \tag{1}$$

where q, d, and t refer to quintile, district, and years respectively.  $y_{dt}^q$  is the logarithm of mean per capita consumption of quintile q in district d at time t,  $Y_{dt}$  is the logarithm of GDP per capita in district d at time t, and  $X_{dt}$  is a vector of control variables (which, in this case, consists of island and year dummies). Meanwhile,  $\mu_d$  and  $\varepsilon_{dt}$  are the cross-section district heterogeneity and time series error terms, respectively. The coefficient of interest is  $\alpha_1$  that shows the elasticity of the impact of average income towards per capita consumption of household in each quintile.

Since this is an analysis of a single country, we use the same source of data for the left and right hand side variables (Statistics Indonesia, BPS). As a result, there is no problem of inconsistent definition and/or measurement of variables, which often plague multi-country studies. To ensure robustness, we estimate the model using several regression techniques.

First, we estimate the model using Ordinary Least Squares (OLS) technique. However, this estimation suffers from reverse causality problem and unobserved variables, resulting in downward bias of the estimates. Second, to control for unobserved heterogeneity, we run a panel fixed-effect estimation,

bearing in mind that the reverse causality problem still remains. Third, to solve the reverse causality and unobserved heterogeneity problems, we use first difference estimation technique. To do this, the model in equation (1) is modified into:

$$y_{dt}^{q} - y_{dt-1}^{q} = \alpha_1 (Y_{dt} - Y_{dt-1}) + \alpha_2 (X_{dt} - X_{dt-1}) + (\varepsilon_{dt} - \varepsilon_{dt-1})$$
 (2)

However, a new problem appears in the form of autocorrelation. Hence, fourth, in line with Dollar and Kraay (2002), we combine equations (1) and (2) into a system equation and use GMM-system estimation technique to estimate the model. At this point, we use the Hansen test for over-identification and Arrelano-Bond's second order test for serial correlation. Unfortunately, the results show that we now have an over identification problem and the serial correlation issue continues.

Therefore, fifth, to overcome the over identification and serial correlation problems, we include year and island dummy variables in the GMM-system estimation. Since we estimate the model using data from relatively short periods of time following the presidential periods, this fits with the GMM-system technique that supports estimation of panel data with many individuals but few time periods (i.e., large N and small T panel data).

#### 4.2 Data

The unit of observation of the data used in the analysis is district (*kabupaten* and *kota*). The data consists of district per capita GDP, district average of real per capita household consumption by quintile (constant 2000 price), and several district level control variables. The district per capita GDP is calculated from the data of district level Gross Regional Domestic Product (GRDP) at constant 2000 price. Meanwhile, the per capita household consumption is calculated from the data collected through the National Socio-Economic Survey (Susenas), a household survey covering basic demographic and detailed household consumption variables. Since Susenas is not a household panel data, the quintiles can consist of different households over time.

We use the district Consumer Price Index (CPI) to deflate the nominal household consumption to obtain the real consumption data using constant 2000 price. Since the district per capita GDP is calculated in annual terms, we transform the monthly household per capita consumption into annual value as well. The source of all this data is Statistics Indonesia (BPS).

Between 2004 and 2017, many districts in Indonesia split. To avoid any discrepancy, we re-aggregate the divided districts into their original districts. Our final data includes a balance panel of 377 districts, covering the period of 2004–17. In accordance with the objective of this study, we estimate the model using data from three periods synchronized with presidential periods: 2004–09 (SBY1), 2009–14 (SBY2), and 2014–17 (JKW).

#### 5. Empirical Estimation and Discussion

#### 5.1 Growth Incidence Curve

To visually depict what happened to household consumption during the three periods of analysis, Appendix Figure A1 shows the growth incidence curve (GIC) in each period. As explained in the literature review section, GIC is measured as the annual growth of each percentile of per capita household consumption.

Several observations can be made from the curves. First, the growth of per capita household consumption for all segments of the population is positive in all periods, implying that, in general, the welfare of Indonesian people has continuously increased. Second, however, the mean of the growth of per capita

household consumption has declined from one period to another, suggesting that the pace of welfare improvement has declined over time. Third, during the first two periods, the GIC curves are positively sloped, meaning that the growth of consumption is higher the richer the population. This is the underlying cause of increasing inequality observed during the period. Fourth, during the Jokowi period, the curve is inverse U-shaped, implying that the welfare improvement for the middle class is higher than for the poorest and richest population groups. This explains why inequality has slightly declined during the last two years.

# 5.2 Is Growth Good for the Poor in Indonesia?

The results of our estimations using various estimation techniques are shown in Appendix Tables A1 to A5. Table A1 shows the estimation results using OLS, Table A2 using fixed effect, Table A3 using first differences, Table A4 using GMM-system with the log GDP per capita instrumented using second lag of the independent variables, and Table A5 using GMM-system with control for year and region dummies. Different from Table A4, the estimation results in Table A5 pass the Hansen test for over-identification and Arellano-Bond test for serial correlation. Hence, we use the results in Table A5 as the main findings of our analysis.

We present the coefficients of log per capita GDP in Table A5 in the form of a graph in Figure 2. Since the estimations have controlled for region and year dummies, the results obtained have taken into account both regional characteristics that do not vary over time, as well as specific time shocks that affect all regions nationally. This means that, in addition to district specific controls, the results have also controlled for global level variables, such as changes in commodity prices, and national level variables, such as the change in tax collection effort by the national government.

The figure shows that during the SBY1 and SBY2 periods, the elasticities of per capita consumption growth of the poorest 20 per cent to per capita GDP growth are close to 1, replicating the results obtained by Dollar and Kraay (2002). During the SBY1 period, the elasticities of the middle quintiles are slightly less than 1. During the SBY2 period, the elasticities of Q2 and Q3 quintiles are significantly lower at around 0.5, while that of Q4 quintile is 1. However, in both periods, the elasticities of the richest 20 per cent are significantly higher, at 1.2. This means that while growth was good for the poor, growth benefited the richest section of the population even more.

During the Jokowi period, unfortunately, elasticity of the poorest 20 per cent is significantly less than 1, at 0.7. Furthermore, the higher the quintile of per capita household consumption the higher the elasticity. The richest 20 per cent, meanwhile, maintain their elasticity at around 1.2. This means that, for every 1 per cent per capita GDP growth, per capita consumption of the poorest 20 per cent grows by 0.7 per cent, while that of the richest 20 per cent grows by 1.2 per cent. Hence, compared to the previous periods, growth is not as good for the poor, while it is better for the middle class and even more for the richest.

Manning and Pratomo (2018) find that real wages have increased significantly in recent years. Wage data from the national labour force survey (Sakernas), which they used in their analysis, refers to formal sector wages. Since formal sector workers are most likely to be located in the middle quintiles in the household per capita expenditure distribution, their finding is consistent with Figure 2 (which shows significant increases in the elasticities of the middle quintiles during Jokowi's presidency).

## 5.3 Heterogeneity Analysis

To see whether the decline in the elasticity of per capita consumption growth of the poorest 20 per cent to per capita GDP growth during Jokowi period occurs uniformly across Indonesia, we perform two heterogeneity analyses. First, we split the sample into municipality districts (*kota*) and regency

1.4
1.2
1
0.8
0.6
0.4
0.2
0
2004–2009
2009–2014
2014–2017

■ Q1 ■ Q2 ■ Q3 ■ Q4 ■ Q5

FIGURE 2
Elasticities of Per Capita Consumption Growth to Per Capita GDP Growth

Source: Authors' calculations.

districts (*kabupaten*) and re-estimate the model separately. The results are presented in Tables B1 and B2 respectively. They show that the elasticity for the poorest 20 per cent in municipality districts is significantly lower at less than 0.7, while in regency districts it is still relatively close to 1, at 0.9.

Second, we divide the sample into districts in Java and those outside Java, and again re-estimate the model separately. The results are presented in Tables C1 and C2 respectively. They show that the elasticity for the poorest 20 per cent in the districts in Java is significantly lower at around 0.7, while in the districts outside Java the elasticity is still around one.

These results are actually consistent with the development priority of Jokowi, which is summarized in the motto "*Membangun dari pinggiran*" (developing from the periphery). However, considering that more than 60 per cent of the poor live in Java, these results imply that it is important to devote more attention to assist the livelihood of the poor who live in Java as well as the urban poor.

#### 6. Conclusion

When Jokowi took over the Indonesian presidency at the end of 2014, the economic and social conditions of the country were not favourable; economic growth had been declining, poverty reduction had stagnated and inequality was high. He has since launched several social policy initiatives to improve the welfare of the nation's poor and vulnerable. These include expanding the coverage of several social assistance programmes as well as making them more effective. In addition, he started and has continuously increased the village fund, a grant for villages mandated by the 2014 Village Law.

This paper analyses the impact of these initiatives on poverty and inequality trends in the country. Adopting the framework developed by Dollar and Kraay (2002), we correlate economic growth with real per capita household consumption growth by quintile at the district level for three periods: 2004–09, 2009–14 and 2014–17. The last period refers to Jokowi's presidency, while the first two periods refer to the first and second term of President Yudhoyono. In this study, we try to assess whether economic growth has become more or less pro-poor under Jokowi.

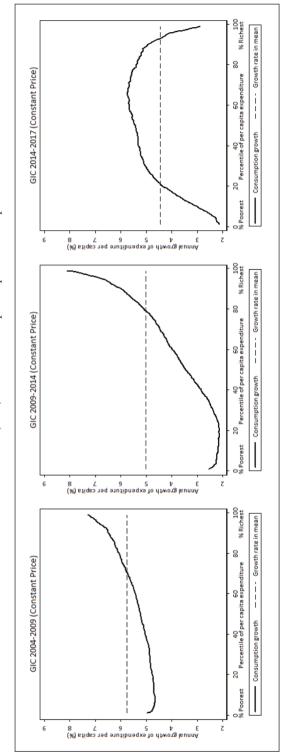
The results of the analysis indicate that economic growth has become less pro-poor during the first three years of the Jokowi government. Compared to the ten years of the SBY administration, where the elasticity of per capita consumption growth to per capita GDP growth of the poorest 20 per cent population was stable at around 1, the elasticity has decreased to around 0.7 during the Jokowi period. This means that, for every 1 per cent economic growth, real consumption of the poor grows less at 0.7 per cent.

The clear winner of the Jokowi period is the middle class. Growth elasticities of consumption of the middle quintiles (Q2–Q4) have increased significantly, especially compared to the second term of the SBY period. Meanwhile, the richest 20 per cent maintains their high elasticity, at around 1.2. This high level of elasticity has been consistently enjoyed by the richest population since the first SBY period.

These results clearly indicate that, during the first three years of the Jokowi period, the poor were less connected to economic growth compared to the middle class and the rich. This implies that the president's strategy to assist the poor through the expansion of social assistance programmes and village fund is not sufficient. While this approach has helped the poor to maintain a positive real consumption growth, it does not really propel them to rise above subsistence level. Hence, a complementary strategy to connect the poor to economic growth — through job creation and income generation — is needed. Furthermore, the results of the heterogeneity analyses indicate it is important to place more attention on assisting the livelihood of the poor who live in Java and the urban poor.

# APPENDIX

FIGURE A1 Growth Incidence Curve (GIC) of Household per Capita Consumption



SOURCE: SUSENAS, authors' estimation.

TABLE A1
Estimation Result from OLS

						Dep	endent: Lo	g of per cap	Dependent: Log of per capita consumption	ntion					
		Peri	Period 1 (2004-09)	(60-			Peri	Period 2 (2009–14)	-14)			Peri	Period 3 (2014–17)	-17)	
	$\tilde{o}_{l}$	22	<i>Q</i> 2 <i>Q</i> 3	67	95	$\tilde{O}I$	<i>Q</i> 2	$\mathcal{O}3$	94	95	$\tilde{O}I$	<i>Q2 Q3</i>	$\tilde{o}_3$	64	95
Log of per capita GRDP 0.252*** 0.276*** 0.288*** 0.301***	0.252***	0.276***	0.288***	0.301***	0.308***	0.245***	0.274***	0.245*** 0.274*** 0.295***	0.314***	0.331***	0.250***	* 0.282*** 0.	0.305***	0.313***	0.314***
	(0.034)	(0.031)	(0.029)	(0.028)	(0.029)	(0.028)	(0.027)	0.028)	(0.030)	(0.032)	(0.026)	0.027)	(0.031)	(0.035)	(0.042)
Constant	9.840***	9.807	9.807*** 9.841***	* 9.884***	10.326**	10.117***	9.988***	9.911***	9.905***	$\overline{}$	10.120***	8.960**	***688.6		10.742***
	(0.535)	(0.488)	(0.459)	(0.440)	(0.450)	(0.441)	(0.429)		(0.476)	$\overline{}$	(0.411)	(0.432)	(0.491)	(0.566)	(0.673)
Number of observations	2,262	2,262	2,262	2,262	2,262	2,262	2,262	2,262	2,262	2,262	1,508		1,508	1,508	1,508
Adjusted R2	0.345	0.376	0.389	0.391	0.322		0.400	0.403	0.398	0.352	0.358	0.385	0.399	0.393	0.366

Notes: Standard error in parenthesis, \* p<0.1; \*\* p<0.05; \*\*\* p<0.01

TABLE A2
Estimation Result from Fixed Effect

						$Dep\epsilon$	Dependent: Log of per capita consumption	of per cap	ita consump	tion					
		Perio	Period 1 (2004–09)	(60-			Peric	Period 2 (2009–14)	-14)			Perio	Period 3 (2014–17)	(71-	
	0	<i>Q</i> 2	<i>Q</i> 2 <i>Q</i> 3 <i>Q</i> 4	67	95	$l\tilde{o}$	<i>Q</i> 2	$\tilde{O}3$	<i>Q</i> 4	<i>Q</i> 5	ΙÕ	<i>Q</i> 2	Q3	94	<i>Q</i> 5
Log of per capita GRDP 0.6	933*** (	0.721***	0.702***	0.633*** 0.721*** 0.702*** 0.662***	0.584***	0.270***	0.294***	0.444***	0.685***	1.103**	0.677	0.971**	* 1.160***	1.217***	0.848***
(0.0)	0.077) ((	(0.082)	(0.073) $(0.069)$	(0.069)	(0.063)	(0.089)	(0.088)	(0.102)	(0.127)	(0.174)	(0.067)	0.100)	(0.113)	(0.123)	(0.113)
Constant 3.8	7 ***868		3.403*** 4.271***	4.271***	м.	9.720***	***LL9.6	7.560***	4.070*		3.320***	-1.002	-3.714** -	4.308**	2.235
(1.1)	1.199) (1	(1.284)	(1.129)	(1.074)					(2.002)	(2.740)	(1.063)	(1.592)	(1.795)	(1.951)	(1.793)
Number of observations 2,2	2,262				2,262	2,262	2,262	2,262	2,262	2,262	1,508	1,508	1,508	1,508	1,508
Adjusted R2 0.3	0.304		0.322						0.212	0.254		0.352	0.387	0.380	0.182

Notes: Standard error in parenthesis, \* p<0.1; \*\* p<0.05; \*\*\* p<0.01

Estimation Result from First-difference TABLE A3

						Dep	endent: Lo	g of per ca	Dependent: Log of per capita consumption	ption					
		Peri	Period 1 (2004–09)	(60			Per	Period 2 (2009–14)	0–14)			Peri	Period 3 (2014–17)	-17)	
	0I	<i>Q</i> 2	<i>Q2 Q3 Q4</i>	64	95	0	<i>Q</i> 2	$\widetilde{O3}$	94	95	0	<i>Q</i> 2	$\tilde{Q}3$	94	<i>Q5</i>
Log of per capita GRDP	0.317***	0.248**	0.317*** 0.248*** 0.182*** 0.120**	0.120**	-0.065	0.292***		0.052	0.210**	0.396***	0.525***	0.758**	***966.0	1.134***	0
	(0.035)	(0.049)	(0.049) (0.047) (0.049)	(0.049)	(0.093)	(0.056)	(0.051)	(0.051)	(0.077)	(0.090)	(0.062)	(0.089)	(0.116)	(0.142)	(0.124)
Number of observations	1,885	1,885	1,885	1,885	1,885	2,262	2,262	2,262	2,262	2,262	1,508	1,508	1,508	1,508	
Adjusted R2	0.068	0.040	0.022	0.008	0.000	0.033	-0.000	0.001	0.012	0.021	0.083	0.148	0.190	0.200	
NOTES: Standard error in parenthesis, * p<0.1; ** p<0.05; *** p<0.01	enthesis, * p	<0.1; ** p<	0.05; *** p<	:0.01											

Estimation Result from GMM-system TABLE A4

of per capita GRDP   $O = O = O = O = O = O = O = O = O = O $	2add						dan	200	s of her cal	rependent to by the cuping communities	11011					
Log of per capita GRDP  Constant  Number of observations  Number of instrument Overidentification restrictions (Hansen test) First-order serial correlation (Arellano-Bond test) Second-order serial correlation (Arellano-Bond	_		Perio	d 1 (2004–	(60)			Peric	od 2 (2009-	-14)			Peri	Period 3 (2014–17)	-17)	
Constant  Constant  Number of observations  Number of instrument Overidentification restrictions (Hansen test) First-order serial correlation (Arellano-Bond test) Second-order serial	3 fragation	10	<i>Q</i> 2	$\tilde{Q}_3$	94	95	$I\tilde{O}$	<i>Q</i> 2	$\tilde{Q}$ 3	94	95	$I\tilde{O}$	<i>Q</i> 2	$\widetilde{Q}_{3}$	94	95
Constant         (0.042)         (0.037)         (0.038)         (0.047)         (0.053)         (0.042)         (0.042)         (0.037)         (0.038)         (0.047)         (0.053)         (0.042)         (0.043)         (0.052)         (0.068)         (0.047)           Constant         -2.636**** -0.846         0.306         1.584**** 7.585**** -0.468         0.520**** 5.910**** -1.149         -7.755**** -0.055           Number of observations         2,262         2	Log of per capita GRDP	54*** 0	).961***	0.901***	0.835***	0.484***	0.917***	0.304***	0.549***	1.016***	1.476***	0.889***	1.249***	1.584***	1.832***	1.358**
-2.636*** - 0.846     0.306     1.584*** 7.585*** - 0.468     9.520*** 5.910*** - 1.149     -7.755*** - 0.055       0.651)     (0.584)     (0.580)     (0.594)     (0.740)     (0.832)     (0.661)     (0.676)     (0.822)     (1.068)     (0.738)       2,262     2,262     2,262     2,262     2,262     2,262     2,262     2,262     1,508       3     3     3     3     3     3     3     3     3       0.176     0.290     0.297     0.388     0.180     0.687     0.108     0.584     0.802     0.506     0.200       0.000	(0.04	42) (0				0.047)	(0.053)	(0.042)	(0.043)	(0.052)	(0.068)		(0.053)	(0.067)	(0.088)	(0.133)
(0.651)         (0.584)         (0.540)         (0.740)         (0.832)         (0.661)         (0.676)         (0.822)         (1.068)         (0.738)         (0.846)           2,262         2,262         2,262         2,262         2,262         2,262         2,262         1,508         1,508         1,508           3         3         3         3         3         3         3         3         3         3           0.176         0.290         0.297         0.388         0.180         0.687         0.108         0.584         0.802         0.506         0.200         0.015           0.000		90 ***98	).846	0.306	1.584***	7.585***	-0.468	9.520***	5.910***		-7.755***		-5.412***-	-10.446***	-14.059***	-5.858**
2,262         2,262         2,262         2,262         2,262         2,262         2,262         2,262         2,262         2,262         2,262         2,262         1,508         1,508           3         3         3         3         3         3         3         3         3         3           0.176         0.290         0.297         0.388         0.180         0.687         0.108         0.584         0.802         0.506         0.200         0.015           0.000	(0.65		_	(0.580)			(0.832)			(0.822)	(1.068)		(0.846)	(1.064)	(1.402)	(2.105)
3         4         4         4			2,262	2,262	2,262	2,262	2,262	2,262	2,262	2,262	2,262	1,508	1,508	1,508	1,508	1,508
0.176         0.290         0.297         0.388         0.180         0.687         0.108         0.584         0.802         0.506         0.200         0.015           0.000         0.0	Number of instrument 3	.8	3	3	3	3	3	3	3	3	3	3	3	3	3	3
0.000         0.000 <td< td=""><td></td><td></td><td>).290</td><td>0.297</td><td>0.388</td><td>0.180</td><td>0.687</td><td>0.108</td><td>0.584</td><td>0.802</td><td>0.506</td><td>0.200</td><td>0.015</td><td>0.001</td><td>0.000</td><td>0.000</td></td<>			).290	0.297	0.388	0.180	0.687	0.108	0.584	0.802	0.506	0.200	0.015	0.001	0.000	0.000
0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.092         0.526	restrictions (Hansen test)															
0.869 0.000 0.000 0.000 0.000 0.035 0.070 0.000 0.000 0.000 0.092 0.526			000.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.869         0.000         0.000         0.000         0.005         0.035         0.070         0.000         0.000         0.092         0.526	(Arellano-Bond test)															
correlation (Arellano-Bond			000.	0.000	0.000	0.000	0.035	0.070	0.000	0.000	0.000	0.092	0.526	0.490	0.992	0.305
V	correlation (Arellano-Bond															
	test)															

All estimations are estimated using system GMM with two-step estimation, GRDP is instrumented using 2nd or 3rd lags of GRDP, and robust standard error.

TABLE A5
Estimation Result from GMM-system with Year and Island Dummies

						Dep	endent: Log	g of per cap	Dependent: Log of per capita consumption	ıtion					
		Peri	Period 1 (2004–09)	(60-			Peri	Period 2 (2009–14)	-14)			Peri	Period 3 (2014–17)	-17)	
	$\tilde{o}_{I}$	22	<i>63</i>	64	95	0	<i>6</i> 5	$\tilde{Q}3$	64	<i>Q</i> 5	$\tilde{O}I$	<i>Q</i> 2	$\tilde{Q}3$	64	95
Log of per capita GRDP	***806.0	0.844***	0.908*** 0.844*** 0.851*** 0.907***	****406.0	1.182***	0.964	0.964*** 0.463***	0.521***	1.013***	1.240***	0.704***	0.850***	1.090***	1.166***	1.243***
	(0.089)	(0.070)	(0.067)	(0.072)	(0.102)				(0.047)	(0.065)	(0.056)	(0.063)	(0.099)	(0.133)	(0.126)
Year dummies	Yes	Yes	Yes Yes Yes Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes
Island dummies	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-0.400	1.090	1.290	902.0	-3.017*		7.176***	6.658***	-0.839	-3.686*** 2.968***	2.968***	1.093	-2.310	-3.185	-3.711*
	(1.391)	(1.073)	(1.028)	(1.096)	(1.543)	_		(0.748)	(0.720)	(1.009)	(0.880)	(0.971)	(1.516)	(2.050)	(1.948)
Number of observations	2,262	2,262	2,262	2,262	2,262	2,262	2,262	2,262	2,262	2,262	1,508	1,508	1,508	1,508	1,508
Number of instrument	14	14	14	14	14	14	14	14	13	16	13	13	13	13	13
Overidentification	0.131	0.799	0.642	0.683	0.874	0.136	0.000	0.000	0.920	0.554	0.143	0.773	0.000	0.000	0.000
restrictions (Hansen test)															
First-order serial	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
correlation (Arellano-Bond															
test)															
Second-order serial	0.445	0.974	0.717	0.523	0.002	0.171	0.008	0.013	0.470	0.530	0.399	0.270	0.335	0.602	0.751
correlation (Arellano-Bond															
test)															

NOTES: Standard error in parenthesis, \* p<0.1; \*\* p<0.05; \*\*\* p<0.01

All estimations are estimated using system GMM with two-step estimation, GRDP is instrumented using 2nd or 3rd lags of GRDP, and robust standard error.

Estimation Result GMM-system for Municipality TABLE B1

		<i>Q</i> 5	1.624***	(0.368)	Yes	Yes	-9.916*	(5.868)	356	13	0.131			0.000			0.209		
	-17)	64		(0.568)	Yes	Yes	-12.381	(9.050)	356	13	0.000			0.002			0.562		
	Period 3 (2014–17)	$\tilde{O}_3$		(0.387)	Yes	Yes	-11.826*	(6.193)	356	13	0.015			0.003			0.067		
	Pe	<i>6</i> 5	1.084***	(0.187)	Yes	Yes	-2.365	(3.044)	356	13	0.871			0.000			0.575		
		$\tilde{O}I$	0.675***	(0.125)	Yes	Yes	3.680*	(2.054)	356	13	0.559			0.000			0.756		
ption		95	1.250***	(0.152)	Yes	Yes	-3.784	(2.420)	534	16	0.959			0.000			0.116		
Dependent: Log of per capita consumption	-14)	94	1.087***	(0.116)	Yes	Yes	-1.817	(1.845)	534	13	0.877			0.000			0.184		
og of per ca	Period 2 (2009–14)	$\tilde{O}$ 3	0.237*	(0.121)	Yes	Yes	11.446***	(1.933)	534	14	0.000			0.000			0.924		
pendent: La	Peri	<i>Q</i> 2	0.277***	(0.101)	Yes	Yes	10.472***	(1.603)	534	14	0.000			0.000			0.283		
De		$\tilde{O}I$	1.293*** 0.895***	(0.161)	Yes	Yes	0.233	(2.570)	534	14	0.470			0.005			0.957		
		95	1.293***	(0.281)	Yes	Yes	-4.588	(4.427)	534	14	0.851			0.000			0.051		
	(60-	94	0.902***	(0.179)	Yes	Yes	1.038	(2.811)	534	14	0.840			0.000			0.333		
	Period 1 (2004–09)	$\tilde{O}3$	0.872***	(0.163)	Yes	Yes	1.256	(2.551)	534	14	0.610			0.000			0.611		
	Per	<i>Q</i> 2	1.066*** 0.859*** 0.872*** 0.902***	(0.166)	Yes	Yes	1.191	(4.623) $(2.607)$ $(2.551)$ $(2.811)$	534	14	0.613			0.000			0.303		
		$i\delta$	1.066**	(0.292)	Yes	Yes	-2.432	(4.623)	534	14	0.736			0.026			0.415		
			oer capita	GRDP	Year dummies	Islands dummies	Constant		Number of observations	Number of instrument	Overidentification	restrictions (Hansen	test)	First-order serial	correlation (Arellano-	Bond test)	Second-order serial	correlation (Arellano-	Bond test)

NOTES: Standard error in parenthesis, \* p<0.1; \*\* p<0.05; \*\*\* p<0.01

All estimations are estimated using system GMM with two-step estimation, GRDP is instrumented using 2nd or 3rd lags of GRDP, and robust standard error.

TABLE B2
Estimation Result GMM-system for Regency

	-17)	Q4 Q5	1.317*** (0.167)	Yes Yes	Yes Yes	·	(2.484) $(2.722)$		14 14	0.000 0.000		0.000 0.000			0.481 0.385		
	Period 3 (2014–17,	<i>6</i> 3		Yes	Yes	-3.381**	(1.509)	1,152	14	0.145		0.000			0.699		
	Per	<i>Q</i> 2	0.909*** 0.828***	Yes	Yes	1.314	(1.128)	1,152	14	0.291		0.000			0.297		
		ΙÕ		Yes	Yes	-0.224	(0.873)	1,152	11	0.382		0.000			0.497		
ıption		<i>6</i> 2		Yes	Yes	-5.237***	(1.121)	1,728	16	0.392		0.000			0.740		
Dependent: Log of per capita consumption	1–14)	67	1.018***	Yes	Yes	-1.011	(0.838)	1,728	13	0.266		0.000			0.090		
ng of per ca	Period 2 (2009–14)	$\tilde{O}_3$		Yes	Yes	7.926***	(1.052)	1,728	14	0.000		0.000			0.005		
vendent: Lc	Per	<i>Q</i> 2	* 0.276*** (0.067)	Yes	Yes	-6.553*** 9.707***	(1.034)	1,728	14	0.000		0.000			0.015		
taQ Det		ΙÕ		Yes	Yes	-6.553***	(5.006)	1,728	14	0.520		0.003			0.177		
		<i>6</i> 2	1.323***	Yes	Yes	-5.184*	(2.923)	1,728	14	0.187		0.000			0.031		
	(60-)	97	* 0.913*** (0.106)	Yes	Yes	0.529	(1.576)	1,728	14	0.874		0.000			0.760		
	Period 1 (2004–09)	$\tilde{O}_3$	1.157*** 0.916*** 0.869*** 0.913** 0.168) (0.112) (0.097) (0.106)	Yes Yes Yes	Yes	0.911		1,728	14	0.888		0.000			0.613		
	Peri	<i>Q</i> 2	0.916**;		Yes	-0.093	(1.664)	1,728	14	0.725		0.000			0.699		
		ΙÕ	1.157***	Yes	Yes	-4.165*	(2.527)	1,728	14	0.410		0.000			0.235		
			Log of per capita GRDP	Year dummies	Islands dummies	Constant		Number of observations	Number of instrument	Overidentification	restrictions (Hansen test)	First-order serial	correlation (Arellano-	Bond test)	Second-order serial	correlation (Arellano-	Bond test)

All estimations are estimated using system GMM with two-step estimation, GRDP is instrumented using 2nd or 3rd lags of GRDP, and robust standard error. NOTES: Standard error in parenthesis, \* p<0.1; \*\* p<0.05; \*\*\* p<0.01

TABLE C1
Estimation Result GMM-system for Java

						Det	nendent: Lo	g of per ca	Dependent: Log of per capita consumption	ıption					
		Per	Period 1 (2004–09)	(-00)			Peri	Period 2 (2009–14)	-14)			Peric	Period 3 (2014–17)	(2)	
	0	02	63	64	95	$\tilde{O}I$	<i>Q</i> 2	<i>63</i>	94	95	0	<i>Q</i> 2	$\tilde{o}_3$	64	<i>Q</i> 5
Log of per capita GRDP	0.837***	0.837*** 0.768*** 0.780*** 0.939***	0.780***	0.939***	1.226***	0.798***	0.438***	0.770***	0.920	1.379***	1.379*** 0.727***	0.955***	1.239***	1.352***	1.531***
	(0.111)	(0.111) $(0.092)$	(0.098)	(0.128)	(0.075)	(9.0076)			(0.075)	(0.106)	(0.088)	(0.116)	(0.186)	(0.227)	(0.216)
Year dummies	Yes	Yes	Yes Yes	Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Provincial dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
e Constant	1.094	2.472*	2.497	0.207	-3.813***	1.643	7.718***	2.702***	0.621	-5.963*** 2.700*	2.700*			-6.350*	-8.513**
1.:-	(1.746)	(1.437)	(1.539)	(2.014)	(1.174)	(1.201)	(0.961)	(0.967)	(1.182)	(1.678)	(1.404)	(1.830)	(2.942)	(3.591)	(3.426)
Number of observations	744	744	744	744	744	744		744	744		496			496	496
Number of instrument	16	16	16	15	15	15	15	15	16	16	14	14	14	14	14
Overidentification	0.185	0.274	0.258	0.318	0.314	0.635	0.000	0.024	0.331	0.909	0.922	0.576	0.000	0.000	0.000
restrictions (Hansen test)															
First-order serial correlation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000
(Arellano-Bond test)															
Second-order serial	0.260	0.576	0.987	0.314	0.012	0.812	0.101	0.245	0.275	0.257	0.902	0.212	0.504	0.233	0.786
correlation (Arellano-Bond															
test)															
IC C	*	**	÷												

All estimations are estimated using system GMM with two-step estimation, GRDP is instrumented using 2nd or 3rd lags of GRDP, and robust standard error. NOTES: Standard error in parenthesis, \* p<0.1; \*\* p<0.05; \*\*\* p<0.01

TABLE C2
Estimation Result GMM-system for Outside Java

		95	1.408***	Yes	Yes	-6.720**	(2.704)	1,012		11	0.000		0.000		i c	0.796	
	-17)	94	1.343***	Yes	Yes	-6.326**	(2.786)	1,012		11	0.000		0.000			0.049	
	Period 3 (2014–17)	Q3	1.176*** (0.113)	Yes	Yes	*	(1.790)			11	0.113		0.000		i c	0.732	
	Per	<i>Q</i> 2	0.955*** 0.873***	Yes	Yes	0.535	(1.246)	1,012		11	0.106		0.000		i	0.751	
		0	$\overline{}$	Yes	Yes	-1.179	(0.991)	1,012		10	0.405		0.000		i	0.744	
tion		95	1.248***	Yes	Yes	4.219***	(1.272)	1,518		12	0.059		0.000		0	0.986	
Dependent: Log of per capita consumption	-14)	94	0.966***	Yes	Yes	-0.390	(0.979)	1,518		11	0.008		0.000			0.193	
g of per cap	Period 2 (2009–14)	$\tilde{o}^3$	0.549***	Yes	Yes	5.930***	(1.142)	1,518		12	0.000		0.000		0	0.050	
ndent: Lo	Per	<i>Q</i> 2	1.163*** 0.437*** 0.125) (0.066) (	Yes	Yes	7.472***	(1.040)	1,518		12	0.000		0.000		i	0.056	
Depe		$\tilde{O}I$	1.163***	Yes	Yes	-4.353**	(1.968)	1,518		12	0.508		0.007		i i	0.175	
		95	1.305***	Yes	Yes	-5.263**	(2.671)	1,518		12	0.568		0.000		0	0.021	
	(60	94	1.004*** 0.977*** 1.022*** (0.118) (0.111) (0.118)	Yes	Yes	-1.348	(1.851)	1,518		12	629.0		0.000		0	0.827	
	Period 1 (2004–09)	$\tilde{O}3$	0.977***		Yes	-0.899	(1.746)	1,518		12	0.720		0.000		i c	0.721	
	Peric	<i>Q</i> 2	1.004***	Yes	Yes	-1.549	(1.851)	1,518		12	0.728		0.000			0.684	
		$\tilde{O}I$	1.250***	Yes	Yes	-5.747**	(2.859)	1,518		12	0.398		0.000			0.631	
			Log of per capita GRDP	Year dummies	Islands dummies	Constant		Number of	observations	Number of instrument	Overidentification	restrictions (Hansen	First-order serial	correlation (Arellano-	Bond test)	Second-order serial correlation (Arellano-	Bond test)

NOTES: Standard error in parenthesis, \* p<0.1; \*\* p<0.05; \*\*\* p<0.01 All estimations are estimated using system GMM with two-step estimation, GRDP is instrumented using 2nd or 3rd lags of GRDP, and robust standard error.

TABLE D1 Summary Statistics (All sample)

		Period 1	Period 1 (2004–09)				Period 2	Period 2 (2009–14)				Period 3	Period 3 (2014–17)		
	Observation Mean Std. Dev Min	Меап	Std. Dev	Min	Мах	Observation Mean Std. Dev Min	Mean	Std. Dev	Min	Мах	Observation	Mean	Mean Std. Dev Min	Min	Мах
Log of per capita consumption (Quintile 1)	2262	13.75	0.31	12.78 14.80	14.80	2262	13.98	13.98 0.28 13.00 14.81	13.00	14.81	1508	14.09	14.09 0.28 13.24 15.02	13.24	15.02
Log of per capita consumption (Quintile 2)	2262	14.10	0.32	13.18	15.21	2262	14.31	0.30	13.38 15.22	15.22	1508	14.45	0.30	13.64	15.49
Log of per capita consumption (Quintile 3)	2262	14.33	0.33	13.40	15.49	2262	14.56	0.32	13.60 15.63	15.63	1508	14.74	0.32	13.88	15.82
Log of per capita consumption (Quintile 4)	2262	14.57	0.35	13.66	15.84	2262	14.86	0.34	13.89 16.10	16.10	1508	15.07	0.33	14.14 16.10	16.10
Log of per capita consumption (Quintile 5)	2262	15.12	0.39	14.11	16.80	2262	15.50	0.38	14.49 17.15	17.15	1508	15.73	0.35	14.76	17.15
Log of per capita GRDP	2262	15.56	15.56 0.72	14.01 19.20	19.20	2262	15.76	15.76 0.69 14.04 19.04	14.04	19.04	1508	15.91	15.91 0.67 14.17 18.96	14.17	18.96

TABLE D2 Summary Statistics (Municipality)

		Period 1	Period 1 (2004–09)				Period 2	Period 2 (2009–14)				Period 3	Period 3 (2014–17)		
	Observation Mean Std. Dev Min Max	Mean	Std. Dev	Min	Мах	Observation Mean Std. Dev Min Max	Mean	Std. Dev	Min	Мах	Observation Mean Std. Dev Min	Mean	Std. Dev	Min	Мах
Log of per capita consumption (Quintile 1)	534	14.04	14.04 0.28	12.78 14.80	14.80	534	14.23	0.23	0.23 13.55 14.81	14.81	356	14.32	14.32 0.23 13.79 14.93	13.79	14.93
Log of per capita consumption (Quintile 2)	534	14.42	0.28	13.73	15.21	534	14.60	0.25	14.02	15.22	356	14.74	0.26	14.14 15.40	15.40
Log of per capita consumption (Quintile 3)	534	14.67	0.28	13.95	15.49	534	14.89	0.26	14.22	15.63	356	15.07	0.26	14.35 15.72	15.72
Log of per capita consumption (Quintile 4)	534	14.94	0.29	14.15	15.84	534	15.22	0.28	14.45	16.10	356	15.43	0.27	14.65 16.10	16.10
Log of per capita consumption (Quintile 5)	534	15.54	0.36	14.57 16.80	16.80	534	15.90	0.33	14.99	17.15	356	16.13	0.29	15.25 17.15	17.15
Log of per capita GRDP	534	16.01	16.01 0.76 14.66 19.20	14.66	19.20	534	16.22	0.73	0.73 14.95 19.04	19.04	356	16.37	16.37 0.71 15.12 18.96	15.12	18.96

TABLE D3
Summary Statistics (Regency)

		Period 1	Period 1 (2004–09)				Period 2	Period 2 (2009–14)				Period 3	Period 3 (2014–17)		
	Observation Mean Std. Dev Min Max	Mean	Std. Dev	Min	Мах	Observation	Mean	Std. Dev	Min	Мах	Observation Mean Std. Dev Min Max Observation Mean Std. Dev Min Max	Mean	Std. Dev	Min	Мах
Log of per capita consumption (Quintile 1)	1728	13.67	13.67 0.26 12.84 14.66	12.84	14.66	1728	13.90	13.90 0.24 13.00 14.73	13.00	14.73	1152	14.02	14.02 0.25 13.24 15.02	13.24	15.02
Log of per capita consumption (Quintile 2)	1728	14.01	0.27	13.18	13.18 14.94	1728	14.22	0.25 13.38 15.15	13.38	15.15	1152	14.37	0.26	13.64 15.49	15.49
Log of per capita consumption (Quintile 3)	1728	14.22	0.27	13.40 15.15	15.15	1728	14.46	0.26	0.26 13.60 15.53	15.53	1152	14.64	0.27	13.88 15.82	15.82
Log of per capita consumption (Quintile 4)	1728	14.45	0.27	13.66	13.66 15.36	1728	14.75	0.27	13.89 15.86	15.86	1152	14.95	0.26	0.26 14.14 16.08	16.08
Log of per capita consumption	1728	14.99	0.30	14.11 16.05	16.05	1728	15.38	0.31	0.31 14.49 16.39	16.39	1152	15.61	0.26	0.26 14.76 16.63	16.63
Log of per capita GRDP	1728	15.42	0.64	14.01	18.46	15.42         0.64         14.01         18.46         1728         15.62         0.61         14.04         18.32	15.62	0.61	14.04	18.32	1152 15.77 0.58 14.17 18.17	15.77	0.58	14.17	18.17

TABLE D4 Summary Statistics (Java)

		Domod	00 10001 1 Poimod				Domina 7	(N1 000C) C Poimod				Dowing 3	Daviod 2 (2014 17)		
	Observation	Mean	Std. Dev	Min	Мах	Observation Mean Std. Dev Min Max Observation Mean Std. Dev Min Max	Mean Mean	Std. Dev	Min	Мах	Observation Mean Std. Dev Min	Mean J	Std. Dev	Min	Мах
Log of per capita consumption (Quintile 1)	744	13.79	0.31	13.08 14.80	14.80	744	13.99	13.99 0.27 13.48 14.81	13.48	14.81	496	14.11	14.11 0.25 13.59 15.00	13.59	15.00
Log of per capita consumption (Quintile 2)	744	14.13	0.34	13.52 15.21	15.21	744	14.31	0.30	13.76 15.22	15.22	496	14.47	0.30	13.91 15.49	15.49
Log of per capita consumption (Quintile 3)	744	14.34	0.35	13.73	15.49	744	14.56	0.33	13.96 15.63	15.63	496	14.78	0.34	14.10 15.82	15.82
Log of per capita consumption (Quintile 4)	744	14.58	0.37	13.97 15.84	15.84	744	14.86	0.37	14.21 16.10	16.10	496	15.12	0.35	14.35	16.10
Log of per capita consumption (Quintile 5)	744	15.16	0.43	14.38 16.80	16.80	744	15.53	0.43	14.73 17.15	17.15	496	15.83	0.38	15.04 17.15	17.15
Log of per capita GRDP	744	15.52	0.75	0.75 14.42 18.52	18.52	744	15.76	15.76 0.74 14.68 18.80	14.68	18.80	496	15.93	15.93 0.73 14.87 18.96	14.87	18.96

TABLE D5 Summary Statistics (Outside Java)

		Period 1	Period 1 (2004–09)				Period 2	Period 2 (2009–14)				Period 3	Period 3 (2014–17)		
	Observation	Mean	Std. Dev	Min	Мах	Observation	Mean	Std. Dev	Min	Мах	Observation Mean Std. Dev Min Max Observation Mean Std. Dev Min Max Observation Mean Std. Dev Min	Mean	Std. Dev	Min	Мах
Log of per capita consumption (Quintile 1)	1518	13.74	13.74 0.30 12.78 14.65	12.78	14.65	1518	13.97	13.97 0.28 13.00 14.79	13.00	14.79	1012	14.08	14.08 0.29 13.24 15.02	13.24	15.02
Log of per capita consumption (Quintile 2)	1518	14.09	0.32	13.18 15.12	15.12	1518	14.31	0.30	13.38 15.18	15.18	1012	14.45	0.30	13.64 15.39	15.39
Log of per capita consumption (Quintile 3)	1518	14.32	0.32	13.40 15.33	15.33	1518	14.56	0.31	13.60 15.54	15.54	1012	14.73	0.31	13.88 15.70	15.70
Log of per capita consumption (Quintile 4)	1518	14.56	0.33	13.66 15.62	15.62	1518	14.86	0.33	13.89 15.99	15.99	1012	15.04	0.32	14.14 16.05	16.05
Log of per capita consumption (Quintile 5)	1518	15.10	0.37	14.11	16.27	1518	15.49	0.35	14.49 16.75	16.75	1012	15.68	0.32	14.76 16.75	16.75
Log of per capita GRDP	1518	15.58	0.70	14.01	19.20	1518         15.58         0.70         14.01         19.20         1518         15.76         0.66         14.04         19.04	15.76	99.0	14.04	19.04	1012	15.90	15.90 0.63 14.17 18.57	14.17	18.57

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